

AMENDMENTS TO THE CLAIMS

The listing below of the claims presents in amended form claims 1 through 14 that were approved and accepted in the international phase of the corresponding PCT application. The following claims replace all prior versions and listings of claims in the present application:

Listing of Claims:

Claim 1 (currently amended): A method relating to the operation of a ~~burner and/or cooler (3), wherein~~ thermal unit for heating or cooling the interior of a furnace, said method comprising: flowing gases ~~are caused to flow~~ through an inner pipe (7), out into an outer pipe (5), which has a closed bottom (9) and which surrounds the inner pipe (7), ~~and ;~~ redirecting the gases that exit the inner pipe back through ~~that part of the~~ a volume of between the outer pipe (5) ~~not accommodated by the volume of~~ and the inner pipe (7), ~~characterised by ;~~ placing an inner bottom plate (8) in the outer pipe (5) in spaced relationship with the closed bottom (9) of said outer pipe (5) ~~and by that , wherein~~ the inner bottom plate (8) ~~fully covers~~ extends across the cross-section of the outer pipe (5) and is ~~placed~~ substantially perpendicular to the longitudinal axis of the outer pipe to define an insulating gas pocket between the bottom of the outer pipe and the inner bottom plate, whereby the gases flowing through the inner pipe (7) and out into the outer pipe (5) ~~are caused to turn back towards said~~ impinge against the inner bottom plate (8) and turn to pass between the outer pipe (5) and the inner

pipe (7), ~~thereby creating a gas pocket (12) between the bottom (9) of said outer pipe and the bottom plate (8).~~

Claim 2 (currently amended): A method according to Claim 1, ~~characterised by causing the through-passing~~ wherein the gases to either comprise are one of hot products of combustion from combustion gas or and cooling air.

Claim 3 (currently amended): A method according to Claim 2, ~~characterised by causing~~ including the step of placing an insulating material (14) ~~to occupy the volume between the inner bottom plate (8) and the bottom (9) of the outer pipe (5).~~

Claim 4 (currently amended): A method according to Claim 2 ~~or Claim 3,~~ ~~characterised by~~ 1, including the step of placing an insert (10) a spacer between the bottom (9) of the outer pipe (5) and the inner bottom plate (8) to improve support and increase the load bearing capacity of the inner bottom plate (8) when no insulating material is used or when the insulating material (14) that is used is not sufficiently supportive to impart a sufficiently high bearing capacity to the inner bottom plate (8).

Claim 5 (currently amended): A method according to Claim 4, ~~characterised by~~ including the step of fastening the insert (10) spacer mechanically to the bottom (9) of the outer pipe (5).

Claim 6 (currently amended): A method according to Claim 4, ~~characterised by including the step of~~ fastening the inner bottom plate (8) mechanically to the ~~insert (10) spacer~~.

Claim 7 (currently amended): A method according to ~~any one of Claims 1 to 6, characterised by claim 1, including the step of~~ constructing the ~~pipe system thermal unit~~ from FeCrAl.

Claim 8 (currently amended): A ~~burner and/or cooler (3) thermal unit for~~ heating or cooling the interior of a furnace, said thermal unit comprising: an inner pipe (7) ~~and having an open end~~; an outer pipe (5) which surrounds and is spaced laterally from the inner pipe (7) and has a closed bottom spaced from the open end of the inner pipe, wherein gases ~~are intended to~~ flow through the inner pipe (7) into the outer pipe and back through ~~that part of the volume of a space between~~ the outer pipe (5) ~~which is not accommodated by the volume of and the inner pipe (7), characterised by~~; an inner bottom plate (8) ~~which is located in the outer pipe (5) in spaced relationship with the closed bottom (9) of the outer pipe (5) and between the closed bottom of the outer pipe and the mouth open end of the inner pipe and by that~~; wherein the bottom plate (8) fully covers extends across the cross-section of the outer pipe (5) and is placed substantially perpendicular to the longitudinal axis of the outer pipe to define an insulating gas pocket between the bottom of the outer pipe and the inner bottom plate.

Claim 9 (currently amended): A burner and/or cooler thermal unit according to Claim 8, ~~characterised in that the gas burner is adapted to be through-passed by~~ wherein the gases ~~which either consist~~ are one of hot products of combustion from combustion gas ~~or of~~ and cooling air.

Claim 10 (currently amended): A ~~burner and/or cooler~~ thermal unit according to Claim 9, ~~characterised by~~ including an insulating material (14) which ~~occupies the volume~~ between the inner bottom plate (8) and the bottom (9) of the outer pipe (5).

Claim 11 (currently amended): A ~~burner and/or cooler~~ thermal unit according to Claim 9 ~~or Claim 10, when no insulating material is used or when the bearing capacity of any insulating material (14) used is insufficient to impart a sufficiently high bearing capacity to the inner bottom plate (8), characterised by an insert (10) which is placed~~ 8, including a spacer between the bottom (9) of the outer pipe (5) and the inner bottom plate (8) ~~such as to enhance support and increase the load~~ bearing capacity of the inner bottom plate (8).

Claim 12 (currently amended): A ~~burner and/or cooler~~ thermal unit according to Claim 11, ~~characterised in that the insert (10) wherein the spacer is fastened mechanically to the bottom (9) of the outer pipe (5).~~

Claim 13 (currently amended): A ~~burner and/or cooler~~ thermal unit according to Claim 11, ~~characterised in that~~ wherein the inner bottom plate (8) is fastened mechanically to the ~~insert~~ (10) spacer.

Claim 14 (currently amended): A ~~burner and/or cooler~~ thermal unit according to ~~any one of Claims 8 to 13,~~ characterised in that the pipe system claim 8, wherein the thermal unit is comprised of formed from FeCrAl.